Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-24 are pending in the application, with claims 1 and 10 being the independent claims. Claims 1-2 and 10-11 are sought to be amended. The amended claims introduce no new matter.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

Kang

Claims 1-7, 10-12, 16, and 23-24 have been rejected under 35 U.S.C. § 103(a) as being unpatentable in view of Y.K. Kang, *et* al., "An Efficient Implementation of Hash Function Processor for IPSEC", Proc. Third Asia-Pacific Conf. ASICs, August 2002 ("Kang"). Applicant respectfully traverses this rejection.

Kang does not teach or suggest each and every element of amended independent claims 1 and 10. Kang describes an architecture for implementing the SHA-1 algorithm. (Kang, Figure 2). As illustrated in Figure 2 of Kang, the 32x5 adder and the adder_0 through adder_4 structure of the SHA-1 architecture produces a single 160 bit output. Thus, Kang does not teach or suggest an authentication engine architecture including "a combined adder tree with a timing critical path having a single 32-bit carry look-ahead adder (CLA), wherein an output of said combined adder tree is selected from an output of the timing critical path and an output of a second parallel computation path," as recited in amended independent claim 1.

Furthermore, Kang does not teach or suggest a method including "processing the fixed-size data blocks using a SHA-1 multi-round authentication engine

architecture, said architecture implementing hash round logic for a SHA-1 authentication algorithm including a combined adder tree with a timing critical path having a single 32-bit carry look-ahead adder (CLA), wherein an output of said combined adder is selected from an output of the timing critical path and an output of a second parallel computation path," as recited in amended independent claim 10.

For at least this reason, amended independent claims 1 and 10 are patentable over the cited reference. Claims 2-7 and 23 depend from claim 1 and claims 11-12, 16, and 24 depend from claim 10. For at least the above reasons, and further in view of their own features, dependent claims 2-7, 11-12, 16, and 23-24 are patentable over Kang. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Kang and Schneier

Claims 8-9, 13-15, and 17-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kang in view of B. Schneier, "Applied Cryptography, Second Edition", John Wiley & Sons, New York, 1996, pp. 436-445 ("Schneier"). Applicants respectfully traverse this rejection.

Claims 8-9 depend from claim 1 and claims 13-15 and 17-22 depend from claim 10. Schneier does not overcome the deficiencies of Kang relative to independent claims 1 and 10 described above. For at least these reasons, and further in view of their own features, claims 8-9, 13-15, and 17-22 are patentable. Reconsideration and withdrawal of the rejection are respectfully requested.

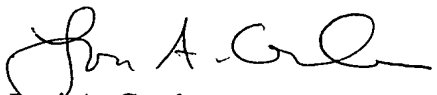
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



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